

CP FIELD TRIP FROM NORTH CAROLINA TO NOVA SCOTIA

by Richard Cross

In late June of 1975, I journeyed to the east coast on a combination vacation and CP search. Landing in Washington, D.C., my first contact was with Allan Marmelstein. Allan was very informative and inspired me to head south to North Carolina where it was possible to see Dionaea in its natural habitat. So, on June 27, I found myself just west of Morehead City, North Carolina.

As my three companions and I approached the first site Allan had suggested, we were able to observe with ease a phenomenon new to us native Southern Californians and necessary for many CP--that of high temperature and high humidity. The area was a small, moderately open field in the midst of an evergreen forest covered with grasses and sparsely situated shrubs. The field was longer in the north-south direction than in the east-west and was bordered on the south by the paved road on which we had entered the area.

In our initial search of the field, we were only able to find D. capillaris. These were very plentiful, bright red in color and appeared to prefer areas near creek beds (now dry) or the margins of the field where the grass was taller. Soil was sandy in the creek beds; and in the field proper and its margins, soil was sandy with a thin peat covering.

As we prepared to leave the area, we finally noticed a few specimens of D. intermedia in the creek to the east of the field. These were located near the very edge and on the steep banks of the creek bed, but were very few in number. The D. intermedia also had bright red leaf blades and petioles. There were no D. capillaris growing in the vicinity of these D. intermedia although they were present at higher elevations of the bank.

We were returning to the car encouraged by our find, but somewhat disappointed at not having found any Dionaea when we were delighted by a small patch of Dionaea not more than 100 feet from the road. As an added bonus, Pinguicula caerulea was commingled with the Dionaea. The area was about four feet in diameter and the soil was sandy or sandy with a peat covering. Several of the Dionaea had 1-2 foot flower stalks that had set jet black seed. The inside of the traps ranged in color from green to deep red with green being in the definite minority. The plants were closely spaced and formed a small green and red carpet over the ground. P. caerulea was not so abundant as the Dionaea.

We were all in elevated spirits as we departed from the first site, having seen and photographed four species of CP in a relatively small area. We then decided to stop briefly near the road at a second site Allan had suggested in the same vicinity. At this site we were able to find all the species we had found at the first site excepting Dionaea; instead, we found "clumps" of sphagnum moss. These clumps were about six inches above the ground surface and about three feet in diameter. It seemed that P. caerulea had claimed exclusive rights to these sphagnum clumps while D. capillaris and D. intermedia remained at ground level or near the wet roadside gully.

We returned to Washington, D. C. with the idea in mind now of heading north along the coast to Canada. Having read Richard Sivertsen's article (CPN Vol. II, No. 1) among others pertaining to the New Jersey Pine Barrens, I was very much interested in stopping at the Barrens on the way north.

Our first stop in the Pine Barrens was at the Park Office of the Bass River State Forest. When we were unable to locate the abundant Sarracenia purpurea described in Richard's article, we asked at the Park Office for information that would possibly lead us to a stand. We were erroneously told that the only S. purpurea around could be found only near Batso Village in Wharton State Forest approximately twelve miles to the west.

So, the morning of June 20, we found ourselves on a trail leading from the center of the restored village of Batso looking for CP. After searching the area for over an hour, we finally came to an open expanse defined by the surrounding forest and a large stream. The most striking features of the area were the intense reddishness of the soil and the rust-oily look of the water in the stream, both due to the high iron content of the soil in the Barrens. With the use of organoleptic analysis, and assisted by my neophyte experience, I was able to typify soil classification for the area as "damp reddish dirt." A large pond and localizations of small shrubs and grasses comprised the remaining salient features of the terrain.

It was near the pond that we first noticed small mats of D. intermedia. Closer to the stream, we found many more D. intermedia again closely spaced to form mats; but occasionally solitary specimens could be seen. The petioles and leaves of all D. intermedia observed were red. These plants preferred habitats moderately open and interspersed with grass--this as opposed to the bare fifty foot wide banks of the stream or the more densely vegetated areas.

It was particularly fascinating to find that the larger insects, such as dragonflies and craneflies, which were captured in these mats were not held by any single plant but rather by several cooperating plants. Thus, it would seem the close spacing of plants in the mats is a decided advantage to the mat community in that it increases potential victim size.

In the same locale, one could find an occasional lone D. filiformis. These were so few in number that it was hard to define with any certainty their preferred habitat. However, a small majority were found at the edges of the grassy areas and where larger shrubs began growing. In these cases, the plants were usually hidden by the shrub. One of the D. filiformis had put forth a single flower stalk that appeared developed though actual blooming had not yet begun.

Having succeeded in not finding any S. purpurea in the Batso area, we returned to the Bass River State Forest for one last attempt at uncovering any CP. The region we scrutinized was situated at the end of one of the arms of Lake Absegami where a slow moving stream enters the lake. This is also about fifty yards from the same Park Office at which we first stopped. There is a small wood plank walkway that crosses the stream here, but the stream itself is not visible at this point for it is covered entirely by a blanket of green sphagnum moss embedded with pitchers of S. purpurea. The pitchers were very green with no signs of red venation. The green coloration of both the sphagnum and the S. purpurea were most likely due to the reduced light level brought about by the densely populated cedar trees at this locale. The S. purpurea typically had 3-5 long thin pitchers per plant. By pushing the sphagnum away from the base of the plants, several generations of dead pitchers became visible. It was also in this area that we found an occasional patch of D. rotundifolia in the sphagnum and in one case several growing in the tree moss on a log.

We followed the rim of the lake from here towards the main body of water and noted that the concentration of cedar trees was thinning considerably. Now, the stream had taken on the appearance of a large pond dotted by cedar trees. At the base of each tree were large sphagnum mounds with a few S. purpurea. These specimens had the characteristic maroon coloring, and several flower stalks could be seen. As I had no waders, all observations were made from the lake rim; moreover, the privacy of the plants was maintained by some rather nasty thickets. From my restricted perch, it appeared as though the flowers had progressed to the point where their petals had fallen. There were as many as twenty pitchers per plant on several of the specimens sighted.

Following the southern rim of the lake beyond the auto bridge, we found D. rotundifolia, D. intermedia and S. purpurea, generally few in number. The S. purpurea here appeared younger than those noted above, though coloring was maroon. Content with our findings, and with the day's temperature rising, we ended our explorations and headed north.

By July 2, our journey had taken us to Mount Desert Island off the coast of Maine. A large portion of Mt. Desert Island is the Acadia National Park, and among the many enjoyable things to see in the park is the botanical display at Sieur de Monts Spring. The "display" is really a 3/4 acre plot of land in which many plant species indigenous to Mt. Desert Island are grown for the benefit of interested people. According to the self-guided tour pamphlet, Dr. Edgar T. Wherry's book Wild Flowers of Mt. Desert Island was used as a guide in the selection of species. We were surprised to find a small artificial bog in which D. intermedia, D. rotundifolia and S. purpurea were growing. With a few inquiries and a twenty-minute drive we found ourselves at our first peat bog.

The peat bog was a large expanse, measured in miles, west of Hull's Cove on Mt. Desert Island. The entire region was dominated by dense low growing heath vegetation, where the plants were so thick and hearty that they considerably hampered walking. Despite the close proximity to the ocean, the air was hot and humid. If one looked beneath the heath covering, a very dry sphagnum moss could be found. I couldn't help but remember my first tiny bag of sphagnum and now look--miles of sphagnum.

As we looked out across the heath, the familiar red flowers of S. purpurea could be seen here and there. The main plants were not visible, for they were completely covered by the heath plants; only the flowers, now in bloom, could be seen. All the S. purpurea specimens I found had very few pitchers, were green in color, and seemed in poor health. The appearance of poor health might be attributable to the abnormally lengthy time that had elapsed since the last rains. The area of the heath I was exploring had a five yard wide depression approximately four feet deep and fifty yards long. The depression was filled with stagnant water and had a bottom of pure peat.

As this scenario was to be typical of the remaining peat bogs we were to see, a brief outline of peat bog ecology may be in order. A bog begins its life as a lake or series of lakes, often the product of ice sheets from earlier ages. The lake becomes smaller and more stagnant as the surrounding vegetation begins to choke drainage from the lake and surrounding area. Eventually, the stagnant acid water and cool temperatures prevent organic material from completely decomposing, and peat forms. Humic acids are then released by the peat into the water, resulting in the typical coffee brown color.

One of the larger plant constituents of the bog and thereby one of the main sources of peat material is sphagnum moss. As the sphagnum encompassing the lake grows gradually upwards, the great water absorption ability of the sphagnum causes the water table to rise above the lake. The lake in time becomes filled with decaying matter and overgrown by the acidic plants of the bog.

The depression before me was like a cross-sectional slice through the bog. I could see clearly the live sphagnum at the surface and the peat below the sphagnum. There were places along the edges of the peat bottom of the depression where live sphagnum grew. Here could be found a few bright red D. rotundifolia. A half dozen or so S. purpurea, including a seedling, also found the depression a desirable habitat.

We examined another peat bog further north at Fundy National Park in Canada. This was actually a self-guided tour entitled "Les marécages et les betes qui y vivent" in French but more briefly in English "Bogs, Bugs and Beasts." There were plenty of all three with bugs being the hands down winner. The Fundy peat bog had a large lake with D. intermedia and D. rotundifolia growing around its perimeter. As with the Mt. Desert Island bog, S. purpurea was present, but here the sphagnum of the heath was light red! The tour was an excellent example of bog ecology and a boardwalk provided a dry platform across the damp heath.

On July 8, we made our last CP and bog stop. This was on the west side of Cape Breton Highlands National Park which is located near the tip of Nova Scotia. The highlands along the west rise to an elevation of about 1,000 feet and at the top of these highlands are seemingly endless heaths. The half mile hike we took to "Benjie's Lake" (a bog lake) I will always associate with extremes: the most northern peat bog visited (47th parallel); the most hot and humid; and plagued with what could have been the most vicious biting flies known to man. Some members of the party still contend that the flies actually bit harder when they detected insect repellent. Again, S. purpurea, D. rotundifolia and D. intermedia were to be found about twenty feet from the lake edge, D. intermedia preferring the wetter locations and S. purpurea in full bloom. Coloring of both Drosera in the region was red. Observations were short and difficult due to the almost continual hand waving required to fend off persistent flies.

South of Benjie's Lake along the main road, the park had contrived a bog exhibit, again with boardwalk and the CP triumvirate. This was a little more accessible to the average traveller and lacking a large body of water had fewer insects.

Though our trip ended in Nova Scotia, we all would have been interested in seeing the vast bogs of Newfoundland to the north--maybe next time. At least we now have some insight into the choice of S. purpurea as the provincial flower of Newfoundland.

#### PACKAGING CARNIVOROUS PLANTS FOR MAILING

by James C. Fife

Thanks to the Plant and Seed Exchange, we enthusiasts of carnivorous plants are able to establish friends the world over. One of the best ways to begin a friendship, as well as increase your collection, is to ship or receive a package of CPs. But there are certain procedures and techniques which will make the shipping of plants safer and more enjoyable.

Sooner or later, you will be the recipient of a plant package which will be in such a mangled, crushed, destroyed state you'll probably wish it was never sent! However, the reception of a damaged or "destroyed" package doesn't mean the carrier (whether the postal service, parcel delivery agencies, etc.) is to blame. In fact, the damage was probably due to improper packing methods. With the enormous amount of mail and parcels delivered today, the shipper MUST use the best method possible to prevent crushing. Therefore, here are some points to consider before you send a friend a package of CP's:

(1) Decide beforehand exactly what species and the quantity of each species you will send. Try to be generous if possible, as transplant loss is expected occasionally. Never send an "overly generous" supply of plants unless the recipient has informed you of his having ample space to house them. If you've been collecting in the natural habitat, don't forget conservation laws.

(2) Select a very strong cardboard box sufficiently large to safely house the species, corrugated cardboard cartons being the best. Too large a box, however, will not only waste space, cost extra for postage, and give the recipient an illusion of "great expectations", but will increase the likelihood of damage. Remember to allow some room for protective cushioning.

(3) Plants will quickly dehydrate in transit if not wrapped in plastic. Root balls or exposed roots will survive if wrapped in damp peat moss or sphagnum, wrapped in plastic. Never wrap a specimen in newspaper alone, the paper will absorb the moisture and probably desiccate the specimen. Therefore, make sure all damp parts are wrapped in plastic bags or wrap. Wax paper is an excellent substitute.